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COVER: Detail of a Mudejar carpet from Spain, second quarter 15th century, showing the coat of arms of Maria Enriquez, daughter of Alfonso Enriquez, 25th Admiral of Castile, on the front cover and the arms of Juan de Rojas on the back cover. Textile Museum 1976.10.2. Purchase, Arthur D. Jenkins Gift Fund and Proceeds from Sale of Art. (See Figure 2 in "Two Remarkable Fifteenth Century Carpets from Spain" by Louise W. Mackie.)

Transparency by Raymond L. Schwartz.

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TRADITIONAL BERBER WEAVING IN CENTRAL MOROCCO

SALLY FORELLI AND JEANETTE HARRIES

The land historically occupied by Berbers, called the Maghrib, extends across North Africa from the Atlantic Ocean to the western edge of Egypt, encompassing the modern countries of Morocco, Algeria, Tunisia, and Libya. The Berbers, described by Bernard Hoffman (1967: 19) as a "Caucasoid people of Mediterranean type," have inhabited North Africa with their flocks of sheep and goats since long before the first Arab immigrants arrived in the eighth century A.D. This study focuses on the traditional weaving of three contiguous groups in central Morocco who speak a Berber language, Tamazight:¹ the

Zemmour, the Zayan, and the Ait Mgild (Fig. 1).

Literature on flat woven rugs of the Middle East generally describes two principal techniques, kilim and soumak, and to a lesser extent brocade. A different, less well-known technique is elaborated on flat woven rugs by the Berbers of North Africa. The structure is classified by Irene Emery (1966: 154) as a compound weave in which complementary wefts produce a two-faced fabric. Where one set of wefts interlaces with the warp in plain weave, the other set forms floats on the opposite face, and vice versa. The Berbers use

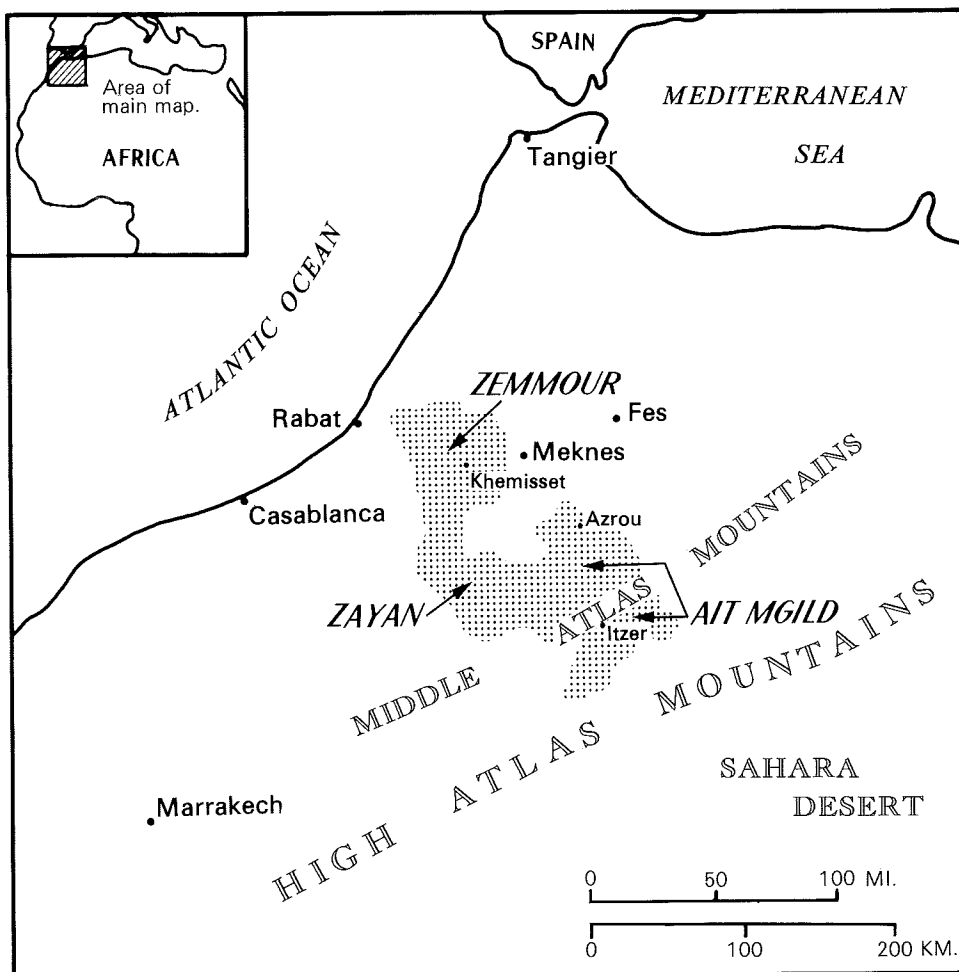


Fig. 1 Map of portion of Morocco showing areas of Zemmour, Zayan, and Ait Mgild Berbers. Drawn by Michael L. Czechanski.

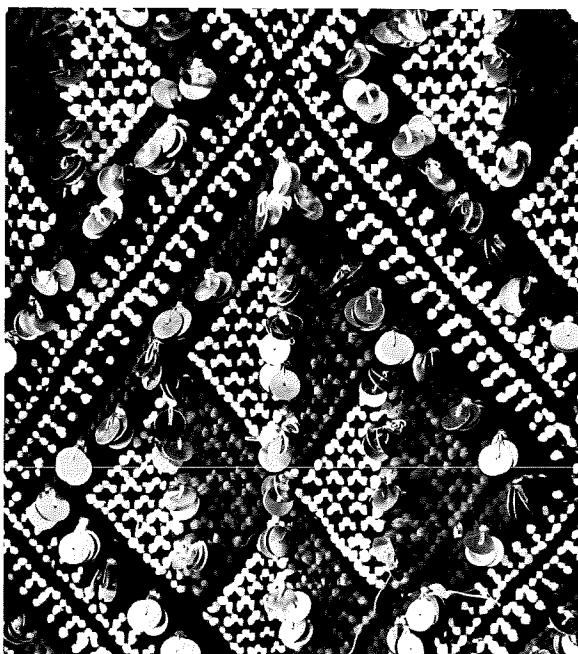


Fig. 2 (left) Detail of Berber textile in skip plain weave technique with sequins.

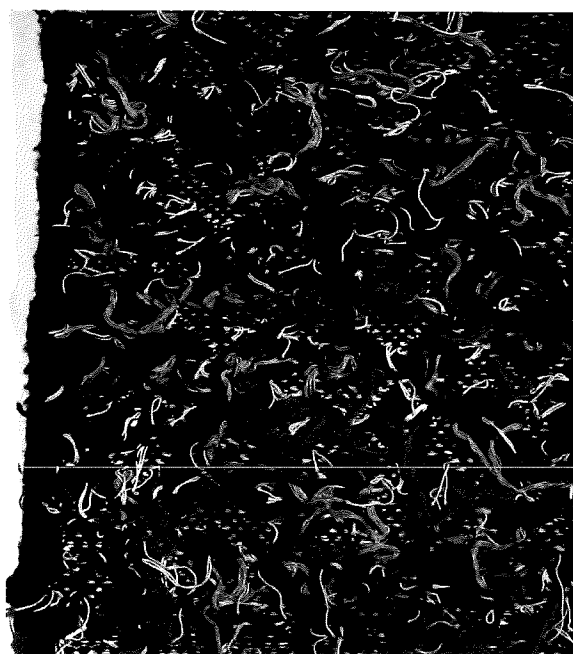


Fig. 3 (right) Reverse of skip plain weave technique showing floats and dangling ends.

several colors in each set which are not continuous from selvage to selvage; this produces on one face a plain weave surface of intricate, finely developed multi-colored designs (Fig. 2) and on the opposite face, a thick padding of floats and dangling ends (Fig. 3). The interwoven side could be considered the "right side" while the float side provides a natural backing. The technique has been designated "skip plain weave" by Peter Collingwood (1969: 122), a term which we use because of its simplicity and descriptive nature. The skip plain weave technique is used by Berbers to produce decorative items of high prestige, including saddlebags and blankets for horsemen; rugs which double as blankets; pillows and tent curtains or wall coverings for the house; and shawls for personal wear.

Elsewhere the skip plain weave technique is used on bags in Afghanistan and on Peruvian and Guatemalan textiles. Certain ancient Peruvian textiles (Emery 1966: 154) utilize two colors in each set which are continuous from selvage to selvage, producing two faces, either of which may serve as the "right side." It is hoped that our description will stimulate examination of other textiles and thus serve to further define the range of the skip plain

weave technique. At the same time we attempt to place this decorative Berber weaving in its cultural context, to describe the principal types of decorative textiles and designs, and to furnish some details on the materials, tools, and processes involved.

The Zemmour, Zayan, and Ait Mgild Berbers have occupied their present terrain for less than a hundred years, after centuries of gradual northwesterly movement. Motivated by need for pasture, water, and arable land, their ancestors moved families and flocks not only seasonally, but also when conquests or treaties permitted, from the edge of the Sahara Desert up, into, and over the Middle Atlas mountains. The leading edge of this movement, the Zemmour confederation, reached its present location in the plains between Rabat and Meknes about 1890 (Lesne 1959: 3).

These frequent displacements of flocks, tents, and households in the pastoral lifestyle called transhumance² dictated a highly mobile way of life for the Berbers. Goods had to be easily transportable on beasts of burden. Access to trade being limited, the self-sufficient families wove much of their clothing and furnishings, the tents in which they dwelt,

and a wide variety of utilitarian articles, using materials at hand. Among these articles, certain textiles were carefully executed and decorated, indicating their cultural value.³

Today, textiles of the same types are still being produced and used, modified somewhat to current resources and needs. The decorative textiles retain their honorific status, having ceremonial as well as practical uses. For example, the Zemmour *tahddun* (see #2 next page) may be used to wrap a rural bride for the journey to her new home; to spread on mats for seating guests or to cover them at night; to give as a gift or tribute; to spread over a woman's body being carried to the grave; and when worn ragged, cut up for use under a packsaddle. The finest rugs, blankets, and cushions decorate guest tents during national, tribal, and familial festivals. Colorful saddlebags and blankets enhance the horsemen's prestige in their games of horsemanship (*fantasia*).

The weaver is valued by her family for her knowledge of traditional designs, skill, and industry in supplying the household with prestigious and beautiful furnishings. Textile production, an integral part of rural and village life, is intimately involved with custom, ritual, and belief; for example, all weaving is suspended in solemn times—a death in the family, a religious holiday, the month of fasting.⁴

PRINCIPAL TYPES OF DECORATIVE TEXTILES

The principal types of decorative woven items are described below, using their Berber names in the Tamazight dialects of Zemmour (Zm), Zayan (Zy), and Ait Mgild (AM).⁵ For more comprehensive listings of Zemmour textiles, see A. Delphy (1954); for the Ait Mgild, see Germaine Chantréaux (1945). The knotted rugs, an important subcategory of decorative weaving, have been exhaustively described by Prosper Ricard (1923, 1926, 1927, and 1934) and are discussed here only briefly.

1. *tamizart* (AM), or *taynast* (Zm, Zy); also called *tahndirt* (from Arabic *hendira*). Woman's shawl for winter use in mountains and foothills (Fig. 4). Typically 47" x 35". Alternating stripes of white wool and hand-spun cotton, with about five to seven narrow



Fig. 4 Zayan girl wearing *tamizart* with design side inward and shag side outward.

bands of skip plain weave spaced at roughly equal distances throughout. On the reverse side are bands of pile formed by rug knots of commercial white cotton yarn. The shag side is worn inward in cold or wet weather, outward at other times. Worn draped over the shoulders and often covering a baby slung on the woman's back, the *tamizart* is tied in front by means of commercial cotton tapes or braided wool ties.

The *tamizart* and its Zemmour counterpart, the *tahddun*, are the only remaining garments with decorative weaving noted by us and by Chantréaux (1945: 23), unless one includes the materials woven to order to be made into men's *djellabas* by tailors. These

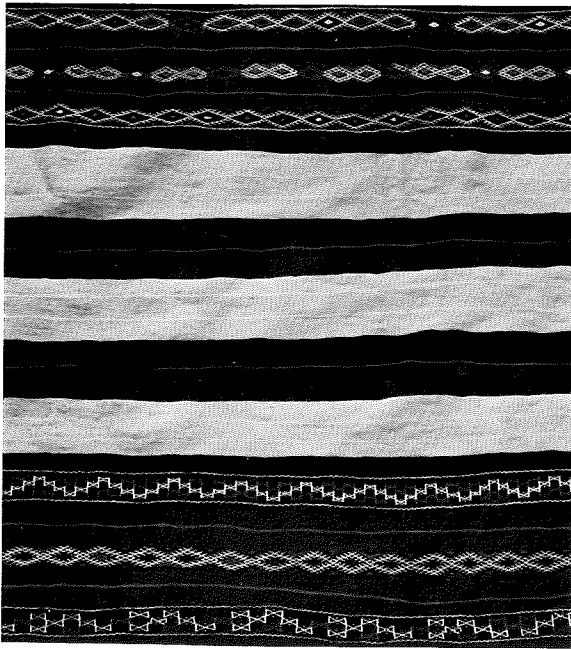


Fig. 5 Detail of *tahddun* or Zemmour woman's blanket, finely woven, about forty years old, red and white predominating.

may have designs formed by tapestry weave but not by skip plain weave.

Several types of rectangular woven pieces serve as rug, blanket, or wrapping:

2. *tahddun* (Zm). Lightweight wool shawl/blanket with horizontal bands of skip plain weave alternating with plain bands of dark red and white (Fig. 5). Typically 64" x

120". Corresponds to the Ait Mgild *tamizart*, but larger and not as warm. Its ceremonial uses were noted above.

3a. *ahnbl* (Zm). Heavy wool blanket/rug with horizontal bands of skip plain weave alternating with dark red bands of plain weave. Typically 60" x 95" or longer, the length being calculated to cover three or four sleepers lying on pile rugs. Used ceremonially to cover a man's body during transport to the grave.

3b. *ahrbl* or *ihrbl* (AM). The Ait Mgild version, similar to the Zemmour *ahnbl* in function but differing in design (Fig. 6). Variations in design include vertical bands of skip plain weave and bands of knotted pile between bands of skip plain weave.

Two other coverings, the *agnnau* and the *tarhalt*, noted by Chantréaux among the Ait Mgild and by us among neighboring Zayan, differ from the *ahrbl* by the absence of plain weave. Bands of skip plain weave cover the entire surface, the thick padding of the float side providing greater warmth.

4. *taγttait* (Zm,Zy), or *taγammust* (AM). Wool saddle blanket (see Fig. 23). Like the *ahnbl* in design and structure but smaller (typically 45" x 65") and finer in weave, it is frequently decorated with sequins and knots of brightly colored rayon yarns. Another kind of saddle blanket, the *tauhnnat*, is made by the knotted pile technique.

5. *tattayt* (AM), or *tasunna* (Zm); also called *lusada*, from the Arabic *usada*. Wool

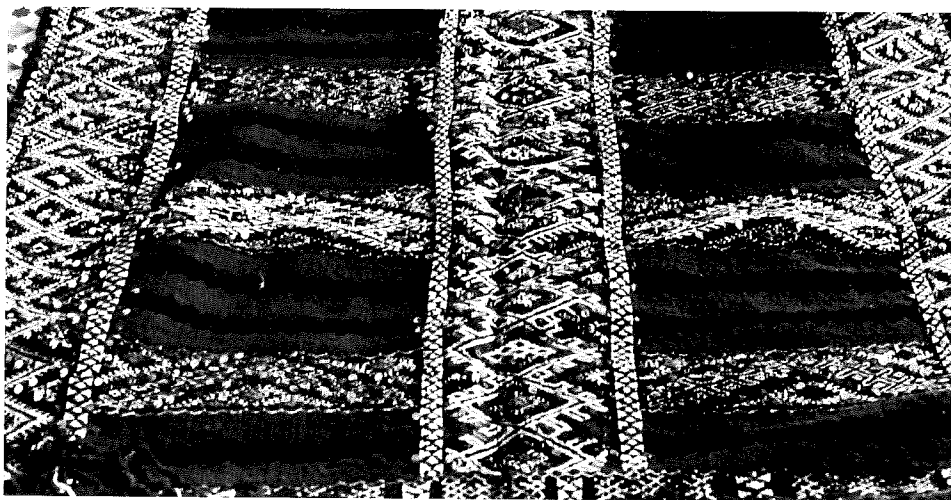


Fig. 6 *Ahrbl*, the Ait Mgild version of *ahnbl*, heavier and includes vertical as well as horizontal bands.

cushion with horizontal bands or over-all design of skip plain weave on the front (Fig. 7), and plain weave in stripes for the back. Long and narrow (typically 13" x 30"). The woven piece is folded at the center, the selvages forming the long sides, and sewn together by a tailor, who adds a narrow braid of rayon fibers over the seams.

6. *ssmatt* (Zm, Zy, AM); Arabic *smatt*. Saddlebag used by horsemen to carry personal gear and gunpowder for the fantasia (Fig. 8). A typical bag is 14" x 38", the pockets at either end being 13" and 15" deep respectively. Woven of wool with skip plain weave on the pocket faces and plain weave, alternating with narrow bands of skip plain weave, on the back. The center of the space between pockets is cut out to form flaps. The resulting double bag is hung over the saddle back.

The tent (*axam* or *taxant*), once the main dwelling but now more often used as a supplement to a house, consists basically of wool and goat hair strips (*iflijn*, sg. *aflij*) woven on the ground loom, dyed black, and sewn together. Its decorative components include two kinds of curtains woven of wool and goat hair on the vertical loom:

7. *asglf* (Zm, Zy, AM). Curtain for the long tent openings at front and back (Fig. 9). Secured to tent body by long pins, it is thrown back by day, and lowered over the stretchers when warmth or privacy is desired. Simple

designs sewn in white wool on the *asglf* as well as on the tent's front are apparently intended to avert the evil eye or the entry of spirits (Chantréaux 1945: 32).

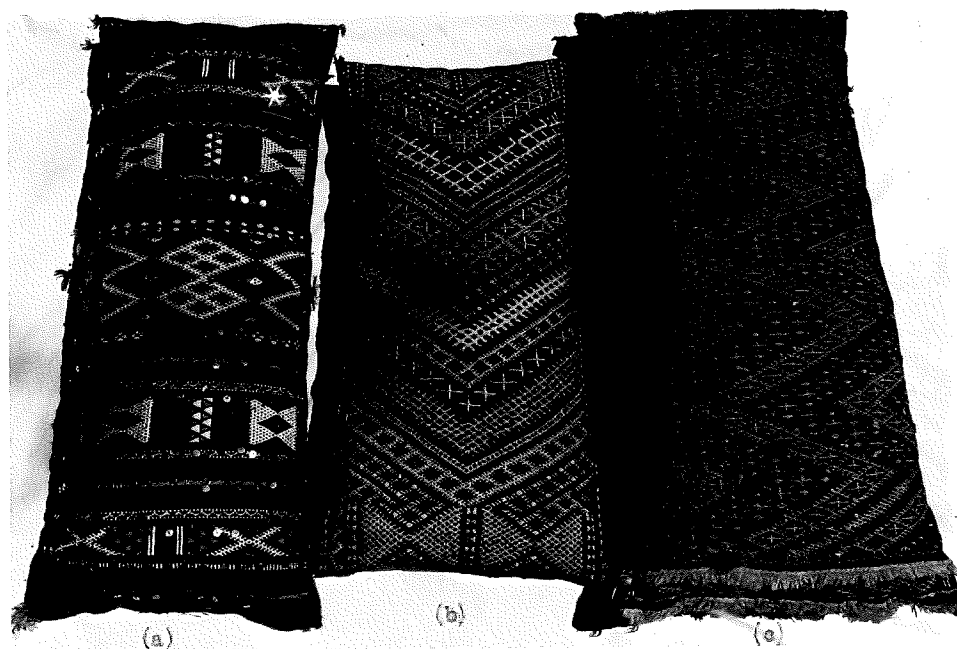
8. *tarfaft* (Zm, AM); *talfaft* (Zy). Curtain for low ends of the tent (Fig. 10). Decorated in skip plain weave, with bright colors against a black background. The interwoven side faces the inside of the tent.⁶

The furnishings of a tent or house include the cushions and blankets described in 2, 3, and 5 above, plus pile rugs and the mats on which they are spread to protect them from the bare floor or earth.

9. *tazrbat* (Zm); *tanakra* (Zy, Zm); *išdif* (AM). Wool pile rug or (in very cold weather) blanket (Fig. 11). Woven on the vertical loom in various sizes to fit areas in tent or house.

10. *agrtıl* (Zm, Zy, AM). Mat twined (rather than woven) on the vertical loom minus its heddle rod (Fig. 12). The warp is a sturdy yarn of wool and goat hair; the weft is dwarf palm or esparto grass. Long ends of the vegetal fiber provide cushioning on the side contacting the earth or floor, while the visible side has a hard, shiny, textured surface. Decorative designs in wool yarns (dark red or blue predominating) are applied during the twining process in soumak technique. Mats are woven to the size of the pile rug or the desired area, and are often used without the rug.

Fig. 7 Long, narrow cushions illustrate differences in design organization: (a) Zemmour (b) Zayan (c) Ait Mgild.



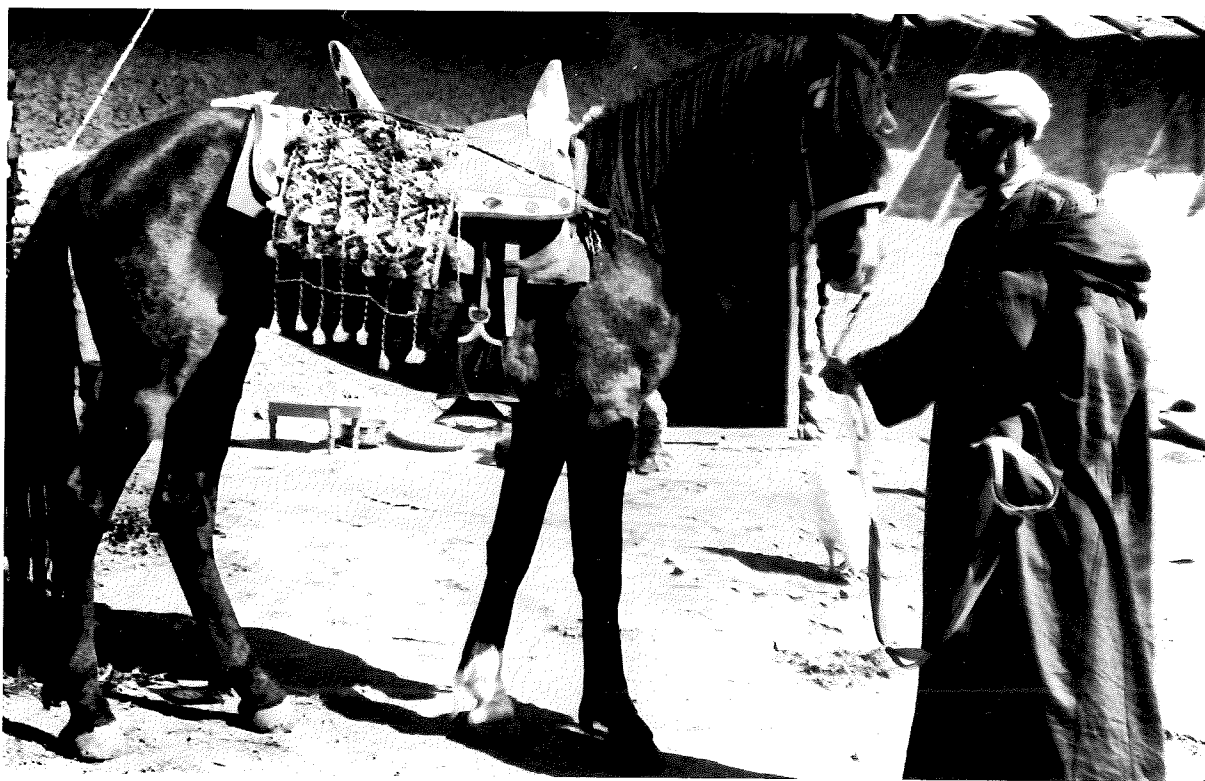


Fig. 8 Saddlebag in position over back of decorative leather saddle.

Fig. 9 Berber tent with *asglf* lowered over stretchers.

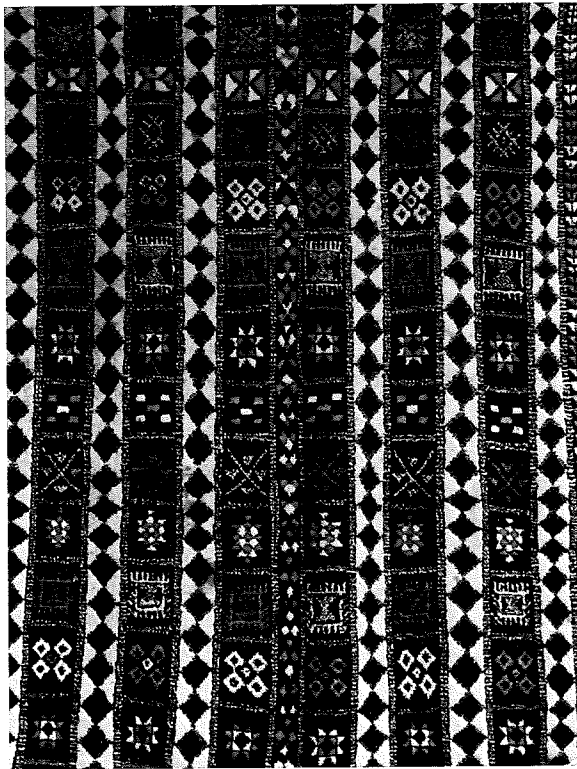




Fig. 10 (top) Man selling *tarfaft* and other tent parts at Azrou souq in mid-autumn.

Fig. 11 (center) Detail of wool pile rug knotted with clove hitch, 6' x 9'. Red, white, orange and black.

Fig. 12 (bottom) *Agartil* showing twined dwarf palm fibers, the ends of which form a padded reverse side. Designs in dark red wool formed by soumak technique. 6' x 9'.



MATERIALS

Wool (*taḍutt*) is the most important fiber in use, with other fibers used in small amounts or for specific purposes. The hair (*šḍar* or *inzadn*) of goats (*tiyṭṭn*) combined with wool is used for weaving tent strips and for the warp of mats. Natural-colored nubby hand-spun cotton (*lqitn*) is used as weft stripes alternating with wool in shawls and lightweight blankets. A preference for imported machine-spun white cotton (*gḡurzian*) for use in the skip plain weave designs whenever white is required is by now traditional. Chantréaux (1945: 24) states that this yarn was purchased in the markets of Fes and Meknes; it is now available in the town of Azrou. Several strands of this cotton yarn are grouped in making "rug knots" on the woman's shawl and in outlining areas on blankets.⁷ Coarse vegetal fibers used include dwarf palm (*tigzdmṭ*), esparto grass (*lḥalfa* or *aggwuri*), and rush (*agzmir*).

Rayon (*lḥrir rumi*) is frequently used in design areas in place of one or more colors of wool. Chantréaux (1945: 19, 26) indicates that only wool and white cotton were used in Ait Mgild weaving, though silk threads were added as embellishments. Delphy (1954: 24) noted the use of both silk (*lḥrir hendi*) and rayon by the Zemmour.⁸ Old-appearing museum textiles are not dated, making it difficult to determine when these materials were first imported. Fibers from a finely woven, older-appearing saddlebag were tested and found to be cuprammonium rayon. Weavers purchase rayon yarn in many colors at the local souqs. Synthetic yarns (*xizran*, or *taḍutt tarumit*—"Roman/Christian wool") are by now widely available. While older weavers prefer traditional materials, synthetic yarns are used increasingly in items intended for sale or for everyday use.

Finally, the Berbers' fondness for glitter is reflected in their use of decorative elements added during the weaving process. The most obvious are the sequins (*muzun*) which are added at random or in patterns which may be independent of the woven designs, often in such abundance as to obscure the design. Chantreaux (1945: 25) notes their "immoderate" use. They are purchased already threaded on short lengths of rayon or cotton yarn. These lengths are looped around the warp yarns and either pulled tight so that the sequins are flush with the textile, or left longer so that they shimmer to greater advantage. The diameter of the sequins in use at present is one cm, while smaller ones of 6 mm appear on older pieces. Plied rayon tags (*abuqs*) are also used alone as a decorative element. Delphy (1954: 24) reports the rare use of gold threads (*zeqelli*), glass beads (*tiâqqain*), coins (*rialat*), and cowry shells (*tiglalîn*). We observed cowry shells and coins adorning the belt of an elderly Zemmour woman.

SPINNING

Following shearing, which is done by hired men, all phases of yarn preparation and weaving are done by women. Wool is washed in a stream or tank, picked and sorted, carded, combed when required, spun on the spindle, skeined, dyed, and frequently washed again. Warp yarn is wound into balls for specific projects—a two-kilo ball for an *aĥnbl*, for example.

A variety of spindles and spinning methods are used to prepare the various wool yarns. A fine warp yarn (*ustu*) is used for the *tahddun*, other lightweight blankets, and clothing. The picked fibers are first carded with hand cards (*aqršal*) and then combed with the iron-toothed combs (*imšdn*). The long staple fibers are then drawn back through the teeth while being twisted lightly into a long rove (*ti-yidwit*). The rove is held in a distaff (*taruka*) of split bamboo and spun tightly on a small drop spindle (*tizdit*) (Fig. 13). Fibers discarded from the combing process and other shorter fibers are carded together and spun on a large spindle (*izdi*) against the leg. A light spinning produces a lightly twisted weft yarn (*tilmi*) used with the fine warp yarns for the lightweight items mentioned above. A further hard



Fig. 13 Zemmour woman spinning fine yarn on small drop spindle, rove held in a distaff of split bamboo.

spinning of *tilmi* results in *araf*, a heavier warp yarn used for the *aĥnbl* and other heavier blankets and pillows, tent parts, and mats. *Araf* may also be spun directly from carded wool slivers. A long spindle having a cork whorl with its tip resting in a clay pot bottom is also used. A thick yarn called *ulum* is spun on the large spindle for use as rug knots.

All spinning observed was Z-spun, single yarn, for both warp and weft. The only hand-spun plied yarns seen were those used for decorative loops (*uzlign*) tied in as uncut rug knots on the flat weave textiles, and some selvage yarns. Cotton spinning was not observed.

Fewer women are learning to spin now that yarn can be purchased at reasonable prices in the local souqs. However, since handspun yarn is desired for the traditional textiles, a weaver may place an order for yarn with an older woman who is known to be a good spinner.

DYEING

Time did not permit a comprehensive study of dyeing, but some general observations can be stated. Weavers prepare dyes (*iymam* or *ssbayat*) from vegetable and mineral sources which they gather or purchase and from purchased chemical dyes. They also buy yarn already dyed. Those we consulted agreed that the homemade dyes and some dyes obtained from the souq could be relied upon to be colorfast. These are selected for traditional textiles woven for home use. Colorfast textiles are washed in cold water and "Tide" (a new generic term for detergent), although a native root (*tiriγit*) is still used in the country.

The weavers work with a small number of known preparations such as the red, black, orange, and white of the Zemmour region. A Zemmour weaver explained her method of obtaining these colors. Black is prepared from a purchased mineral dye and used with the local salt on dark wool. Red dyes used on medium grey wool are obtained from unripe grapes (*asmum*) or grapevines, or a chemical dye (*lâakr*) purchased from peddlers. She combined these two for the red dye of the *tahddun* and the *ahnbl*. Yellow and bright orange dyes are purchased and used on light wool. All are used with a mordant from a milky crystal (*azrif*), alum. White yarn is prepared from carefully washed white wool.

Purchased yarns are not relied upon to be colorfast, so are generally used for items to be sold or for the extra pile rugs needed to furnish large homes. Dyed wool yarns from the souqs are often combined in the same article with hand-prepared yarns. An example was a knotted rug in the salon of a Khemisset house, for which a purchased cartoon was used. This rug had a red background, narrow border, and isolated floral motifs arranged in rows. The weaver prepared her own white wool, dyed the red and yellow, and purchased green and blue yarns. The availability of cartoons and inexpensive yarns in many colors is contributing to a preference of many weavers for these new-style rugs.

Brightly dyed rayon yarns are, however, used in traditional textiles to replace wool in the design areas even though they are not light-fast. It is not uncommon to find a finely woven traditional textile on which the rayon has faded on the side facing the light, and

remains bright on the opposite side. Delphy (1954: 25) states that natural silks dyed in former times were fast.

More information is provided by Delphy about natural dyes used formerly and changes which were taking place by 1954. Red obtained from cochineal (*lqšini*) sold at the souq and from the bark of a native tree (*tizya*) was being replaced by the chemical dye, *lâakr*. This caused the white areas of shawls to turn pink when washed. Delphy distributed cochineal free to weavers to encourage a return to this dye. Following his advice, many weavers added cochineal to their preferred *lâakr*, rendering it stable. The Zemmour tribes did not prepare their own indigo dyes; formerly they obtained them from the indigo dyers of Rabat-Salé, but black from iron sulfate (*baru-diya*) was replacing blue. Yellow from a euphorbium (*mulbina*) was being replaced by an extremely intense orange (*šanaâd*) which was highly prized.

THE BERBER LOOM

The type of loom used in Morocco and by Berbers throughout North Africa is the fixed-heddle loom. Fixed-heddle looms are equipped with one set of permanently raised heddles. This type of loom is fairly widespread in the ground loom version. It is used by the bedouin of Egypt and the Arabian peninsula and in the villages around Jerusalem (Weir 1970: 16). The Madagascar ground loom is also of this type (Roth 1918: 40-48). Berber weavers use the fixed-heddle ground loom primarily to weave tent strips.⁹

All of the Berber decorative textiles are woven on a vertical frame loom (*aztta*—dressed loom) which also utilizes the fixed heddle (Fig. 14). This loom is essentially the ground loom turned upright with the addition of side pieces and supports for balancing. As the studies we have noted indicate, this differs from the upright looms of the Middle East, which are free-standing and employ movable heddles. G. Dalman (1937: 107 ff) and Grace M. Crowfoot (1941: 141 ff) describe a vertical loom with fixed heddles and employing a continuous warp which was used in Palestine. Shelagh Weir (1970: 25) reports that this loom, which was rare during the British mandate, is no longer in use. Further investigation into

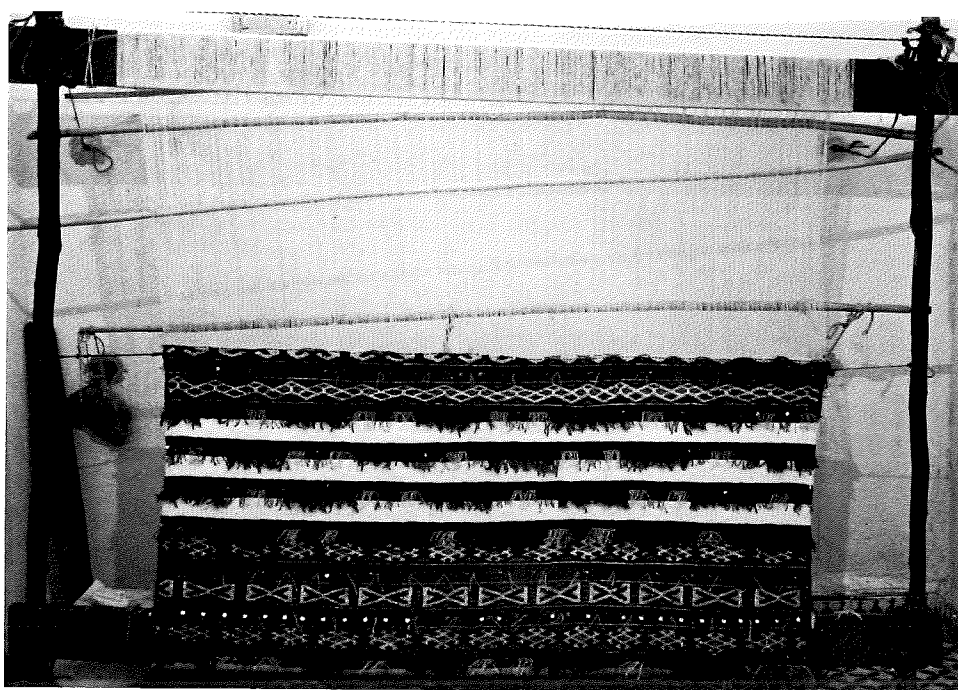


Fig. 14 Berber vertical, fixed-heddle loom.

the distribution of the vertical loom with fixed heddles would be welcome.

The warping process (*tayuri uztta*) involves the cooperation of several women and provides an opportunity for socializing. A weaver calls on two women whom she has perhaps helped on other occasions. Two iron spikes are driven into the ground out of doors the length of the desired weaving project plus about fifteen inches. A third spike is placed on a line between them at about a foot from one end-spike, for the purpose of making the cross. The two helpers sit near the end-spikes while the weaver walks between them releasing the yarn (Fig. 15). The helpers perform the very important task of spacing the warp by twining two cords together while enclosing each warp end as it passes around the spike. This separating cord is made from several strands of warp yarn plied to such a thickness as will produce the desired warp spacing when the half-twist is made. The helper sitting at the end with the two iron spikes also assists in making the cross between them. Doubled or tripled yarns for selvages are provided for at the beginning and end of the warping process. They are twined together as a unit and are later placed in one heddle.

Beaming is most easily accomplished with the participation of four people. Bamboo

poles are inserted at each end inside the warp and on either side of the cross (*amynu*).¹⁰ With the warp spread on the ground, it is examined for equality in width at either end and for even spacing between warp ends. Adjustments are made by sliding warp yarns along the twined cords. The looped warp ends are fastened with cord through holes in the warp and cloth beams (*afggag*, pl. *ifggagn*), planks of about two inches by six inches. The warp is freed from tangles by striking it with the bamboo rods and working the lease sticks toward the cloth beam. Two people hold the cloth beam firmly while two others roll up the warp beam.

The loom is set up near a wall, allowing enough space for the weaver to sit behind it. Lines are connected between the top of the uprights and hooks located at several points in the walls (Fig. 16). The cloth beam is fastened securely against the uprights near the floor. Several feet of warp are unwound, and the warp beam is stretched tightly and tied to the uprights near the top. The beams are positioned so that the free warp comes off the upper beam on the side facing the weaver and the cloth winds onto the lower beam away from the weaver. The beams are released and wound as needed to keep the weaving at a comfortable height.

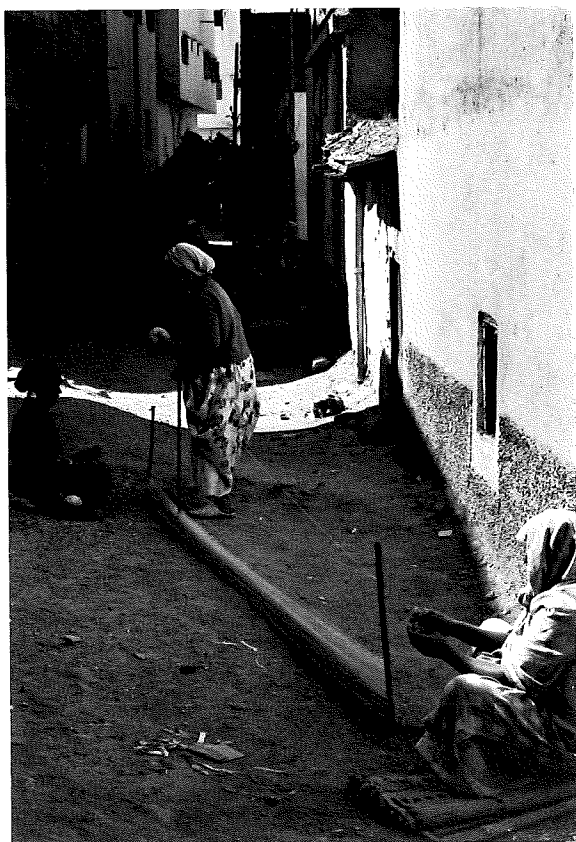


Fig. 15 Women warping in a street near Azrou. Helpers at end spikes twine cords which enclose each warp end for the purpose of spacing the warp.

The last step is to secure every other warp end to a sturdy heddle rod (*tayda*) by means of a continuous lease (*asnli*). This is tied over three bamboo poles as described in detail by Carol Fillips McCreary (1975: 39-44). The heddle rod is then pulled taut toward the wall and secured by a rope at each end to hooks in the wall which are located at about the level of the weaver's head as she sits on the floor (Fig. 17). Alternatively, the rod is tied to poles which are braced between the top beam and the ground, several feet from the loom, a carry-over from the use of looms in the tent or out of doors. Floor poles may be placed between the wall and the base of the uprights if needed for balance. With the loom ready for weaving to begin, the weaver shows her appreciation by preparing tea and serving food to her helpers.

An examination of the procedure for producing alternating sheds shows that little stress is placed on the loom. This allows the

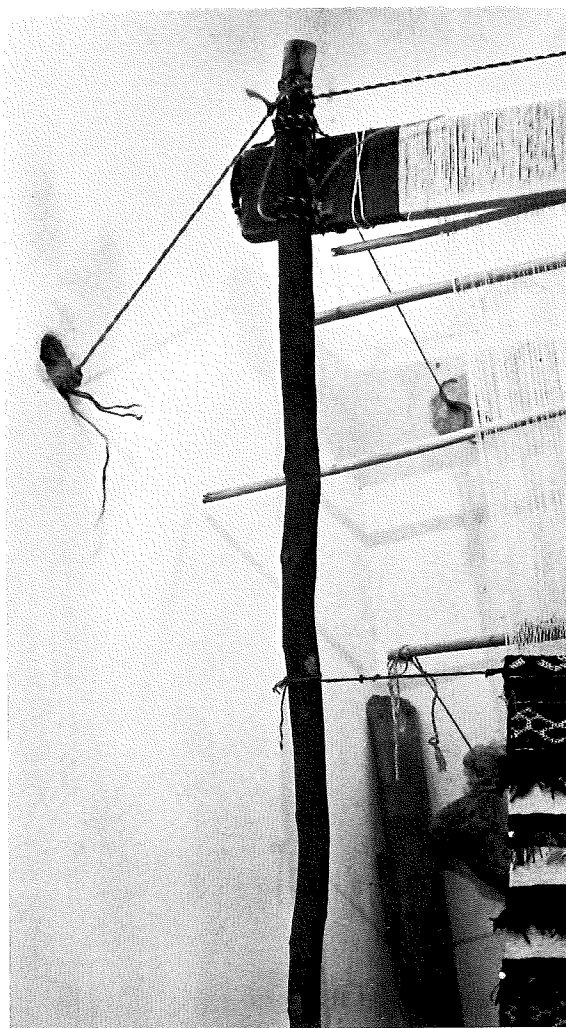


Fig. 16 Support lines connect top of loom to wall for balance.

loom to be lightweight, the uprights frequently as small in diameter as broom handles. The two sheds are illustrated in profile in Fig. 18. With the shed pole raised (Fig. 18a), the warp ends not secured by string heddles fall to the rear of those warp ends fixed by the string heddles. When the shed pole is lowered to rest on the heddles (Fig. 18b), the same warp ends move to the front of the fixed ones. The weaver moves the shed pole up and down easily with one hand while inserting weft with the other hand. There is no lateral pull on the loom such as is exerted on a movable heddle. Thus it appears that this lightweight, fixed-heddle vertical loom was admirably suited to the traditional mobile lifestyle of the Berbers.



Fig. 17 Heddle rod is pulled taut toward the wall by ropes which keeps alternate warp ends fixed.

STRUCTURE OF SKIP PLAIN WEAVE

Young girls learn the technique of skip plain weave in their own homes or that of a relative or neighbor. A modern alternative is apprenticeship in a government-sponsored craft center or "artisanat." A common procedure in the home or artisanat is to begin by weaving pillows on which the technique can be practiced on a small scale, utilizing a simple design. Figure 19 shows one of these practice pillows woven at the craft center in Azrou. (The square form represents an adaptation perhaps to encourage sales to tourists.) We will use this pillow to illustrate the skip plain weave structure.

The cloth diagram of one corner of the pillow is shown in Fig. 20. Each square represents one weft thread because the fabric is weft-faced. The black warp is completely covered. Rows are represented in half-step increments, which approximates their relationship

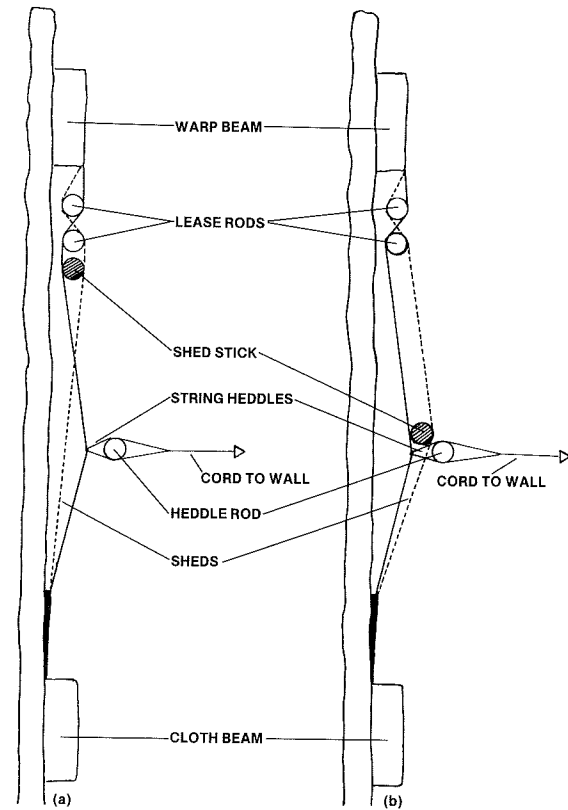


Fig. 18 Profile of vertical, fixed-heddle loom showing alternating sheds (a) shed stick raised, (b) shed stick lowered.

in the fabric. The pillow is woven at 12 ends per inch. Colors used are black, white, blue, and yellow.

The weaving sequence of the first two rows of the cloth diagram is illustrated in Fig. 21 from the viewpoint of the weaver, who works "blind" on the back face of the fabric. The weaver picks up threads on the open shed by hand and inserts one of the four colors behind each warp thread according to the pattern (Fig. 21a). The weaver may begin the pick-up at either end or in the center. Short lengths of weft yarn are used which overlap with a new weft or hang loose when they are used up. When each warp thread has been encircled by one weft thread she beats down the various weft threads with the heavy iron beater (*tasqa*). She changes the shed and inserts the three colors of row two (Fig. 21b). This completes the first two rows, and the fine-lined, multicolored designs appear on the other side of the fabric.

Fig. 19 Practice pillow 16 inches square, woven at the artisanat in Azrou by young girl learning skip plain weave technique.

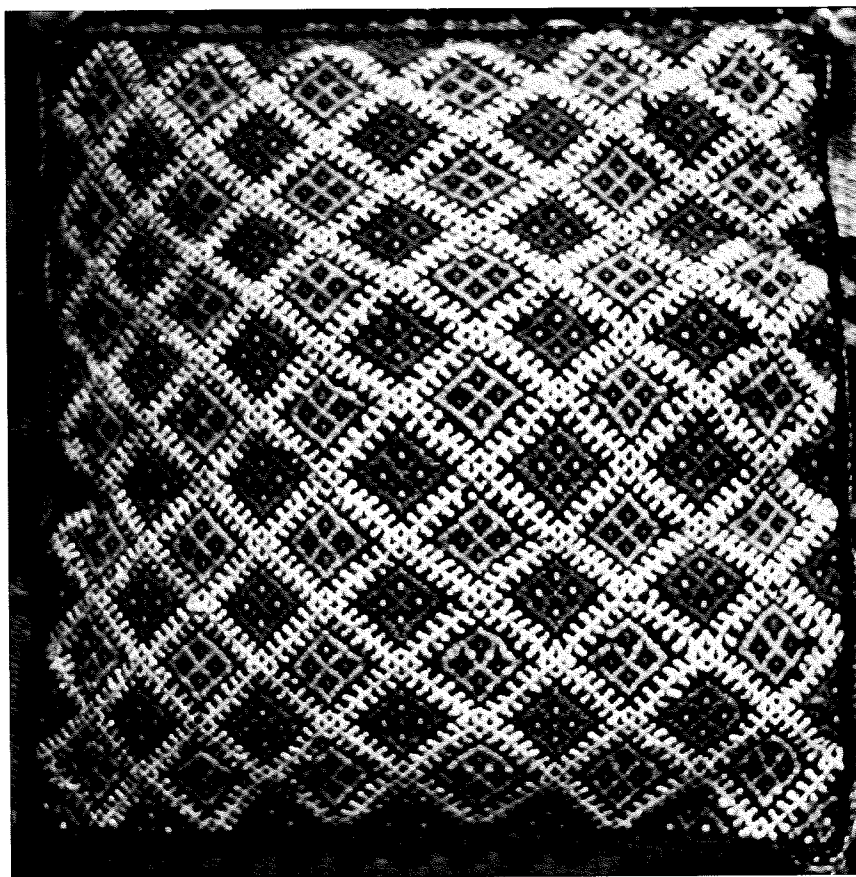
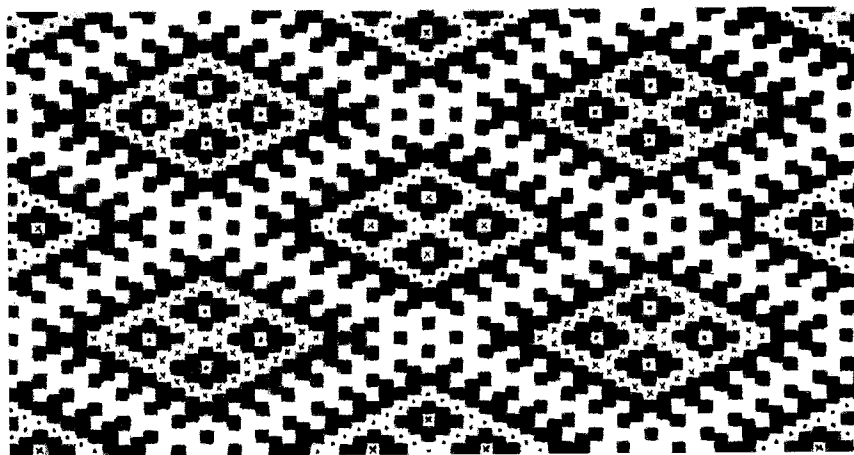


Fig. 20 Cloth diagram of the lower right corner of the pillow in Fig. 19. Each square represents one weft thread. Colors: ■ black, □ white, ◻ blue, ⊗ yellow.



Warp densities vary from the twelve ends per inch of the practice pillow to twenty-three on the *tahddun* of Fig. 5. In the weft direction the fairly heavy weft yarns of the practice pillow beat down to nine wefts per inch, which results in lozenge motifs which are squared. The finer wefts of the *tahddun* result in thirty wefts per inch, causing considerable

flattening of the lozenges in a horizontal direction.

The Berber textiles of skip plain weave are so tightly constructed that the structure is not weakened by the long floats. There seems to be no difference in the security of those which alternate bands of plain weave between the skip plain weave sections and those

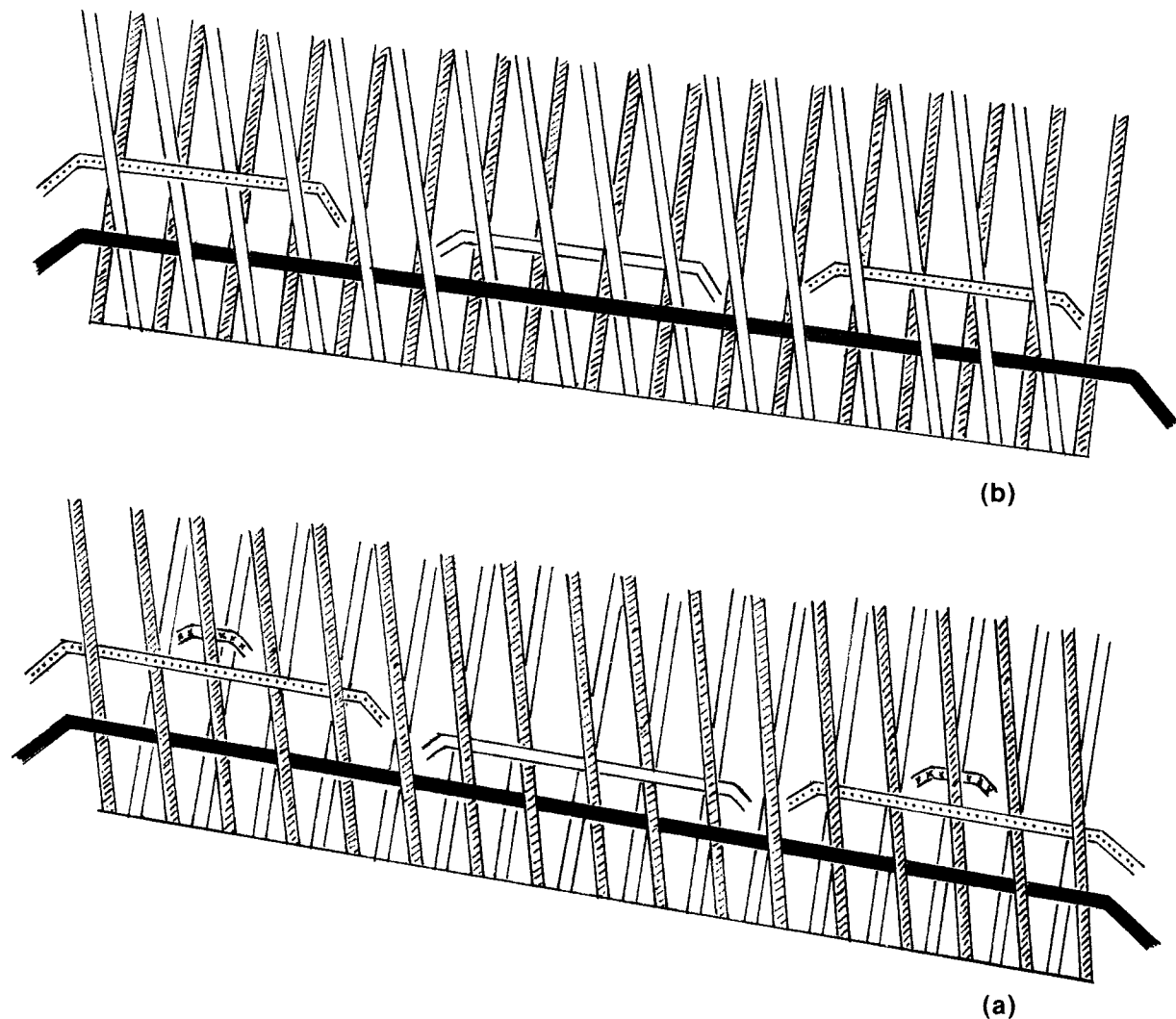


Fig. 21 Weaving sequence of skip plain weave. Represents the first two rows of Fig. 20, the first thirty-three threads at the bottom right.

which utilize skip plain weave over-all. Customs which serve to prolong the life of rugs include removing shoes before stepping on rugs, using the rug with the design side down, and keeping the best rugs folded and stacked until special occasions arise.

It is apparent that the technique and designs are learned during a lifetime of practice. No written aids are employed. Though the designs are built along diagonal and vertical lines, the directions alternate along the web. Consider the pillow of Fig. 7b, where any row may include six colors in nine different design bands, each with numerous alternating diagonal lines. Furthermore, the patterns cannot be seen by the weaver because of the

build-up of overlapping floats and dangling ends. Aisha Sibwi, a skilled weaver of Tiflet, explained that she keeps track of the threads "like a man who never counts his sheep but would know immediately if one were missing." She also told the story of how her fingers once "lost the patterns." She returned to her familial home and slept near the tomb of the local saint. In the morning the patterns were restored.

We suggest that the technique of skip plain weave is sufficiently complex that it could be transmitted to another group only by close association. A related technique used for the *saha* or dividing curtain in certain bedouin tents is structurally the exact coun-

terpart of skip plain weave in a warp-faced weave (Collingwood 1969: 449-450). A thorough understanding of these structures can serve as a valuable tool in attempting to answer questions concerning group influences and patterns of movement.

INCORPORATION OF RUG KNOTS

Rug knots have been imaginatively incorporated into textiles with skip plain weave designs. Within the area of our study we observed weavers using three principal knots: 1) Ghiordes, called "Zayan knot" by Zemmour weavers; 2) Spanish, called *alwa* (Zm), and "Zemmour stitch" by Delphy (1954: 42); 3) clove hitch, called *akrus* "knot" (Zm), and "Berber knot" by Delphy.

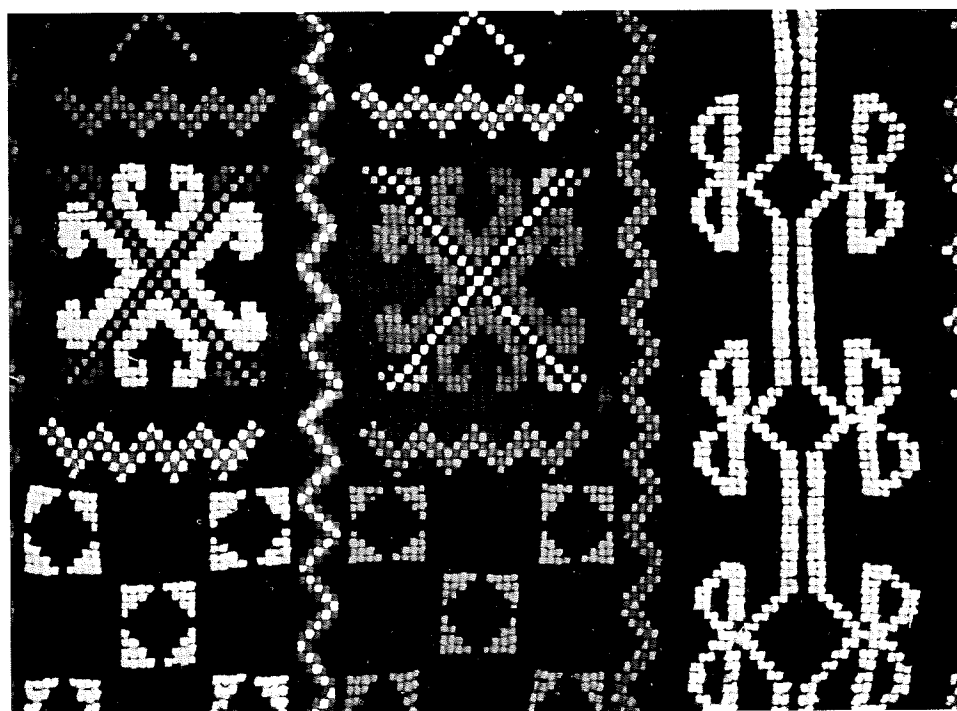
Many weavers know all three knots and frequently use more than one, sometimes on the same rug. The Ghiordes knot is taught at craft centers and is used on most fully-knotted rugs destined for the western market. It is used also by many Zayan weavers and, possibly for this reason, is considered "no good" by some Zemmour weavers. Zemmour weavers use the clove hitch extensively. The two loops of a clove hitch grasp the warp ends tightly

and hold very well, even when the pile is cut quite short. The clove hitch can be identified from the back by the two distinct encirclements, one above the other, for each knot. The cut ends slope in different directions, producing a non-directional pile.

The Spanish knot and the clove hitch are done on a single warp end or two ends treated as one. This enables young weavers to pivot the cut ends to the other side of the loom in order to better visualize the patterns from the back of the knots. It also makes it possible for several weavers to work together in a small space because knotting can be done on both sides of the loom simultaneously. The progress of knotting on one end of a rug may be several rows higher than at the other end, the ground wefts being put in as far as they will go and continued later.

Owners of fully-knotted rugs frequently regard the side formed by the back of the knots as the "right side," the pile serving as padding. With warp and ground wefts of wool in the same color as the background knots, this side does present a handsome and finished appearance (Fig. 22). Supporting this view are rugs which incorporate design bands formed by the back side of knots on the same side as skip plain weave designs.

Fig. 22 Detail of Zemmour pile rug knotted in clove hitch shown from the back side of the knots. This is frequently regarded as the "right side."



The *tamizart* or woman's reversible shawl, with designs on one side and long shag on the other, is an example of imaginative structural combinations (Fig. 4). The ground is comprised of alternating stripes of off-white wool, white hand-spun cotton, and, frequently, narrower stripes of white mercerized cotton or rayon. The skip plain weave/rug knot band is woven as follows. First a row of Ghiordes knots is formed continuously from a long hank of grouped commercial cotton yarns. These are tied as closely as possible, each warp being wrapped by two adjacent wefts, to provide fullness. Next a narrow band of skip plain weave in several colors is woven from the same side, the design appearing on the opposite side of the shawl. Within this design band several extra loops of cotton yarn are inserted. Another row of Ghiordes knots follows. The loops of the rug knots are cut.

The *tamizart* in its most elaborate form is found in the mountainous areas of the eastern Ait Mgild territory. Here the narrow design/knot bands may number sixty-five. The rug knots are in wool, and this side resembles a woolly fleece. The design side is rich in variation and subtle in color, black and white predominating. This shawl, associated with the Ait Warain (Beni Ouarain—Flint 1974: Plate 8), always commands a high price in rug shops.

DESIGN

While each piece of traditional Berber decorative weaving is unique in its combination of design elements, the elements themselves and the manner of their combination are highly traditional. Design elements executed in skip plain weave are consistently called *ilqidn* (AM *ilqdn*). This term is also used by some for the traditional motifs of knotted rugs (eg. Ricard 1926: 33); but weavers insist that *ilqidn* properly means the designs of the flat-woven pieces, while the knotted motifs should be called *rršm* or *zzwq*—terms common to Berber and Moroccan Arabic and applicable to other media such as embroidery and tattoos. Thus strictly speaking, *ilqidn* designates both the designs and the technique of skip plain weave.

Names of the traditional *ilqidn* vary by tribe and area. Names for the design bands of

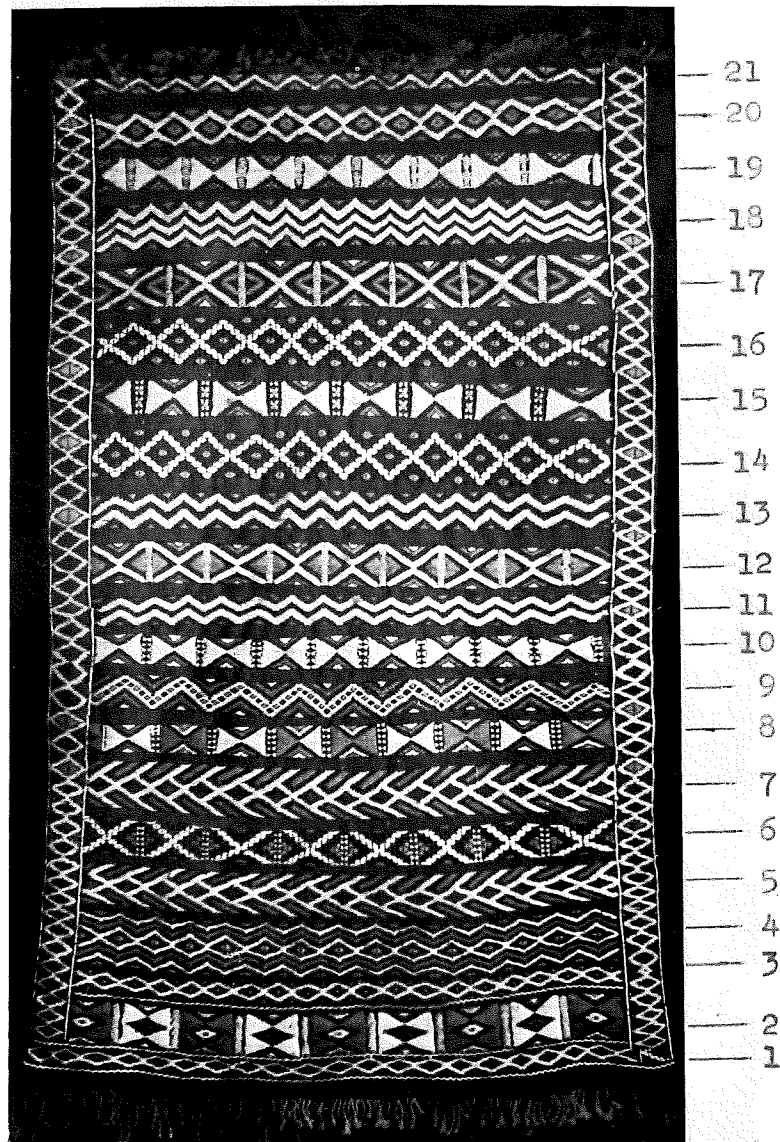
the typical Zemmour saddleblanket shown in Fig. 23 are given below, as identified by an experienced Zemmour weaver and by two Ait Mgild weavers, whose responses are shown where they differ from the Zemmour term.¹¹

1. *tifiyri*, female snake; AM *lmnšar*, saw
2. *tafnzart**
3. *lmnšar*, saw
4. *lmnšar*, saw; AM *imiγzn*
5. *iγss ifiγr*, bone of snake; AM *ifr uyanim*, leaf of bamboo
6. *lhatf amzian*, small *lhatf**; AM *itrان*, stars
7. *iγss ifiγr*, bone of snake; AM *ifr uyanim*, leaf of bamboo
8. *tafnzart**; AM *tifnzarin* (pl. of *tafnzart*)
9. *tilst n tifiyri*, tongue of female snake; AM *lmnšar*, saw
10. *tafnzart**
11. *lmnšar*, saw; AM *imiγzn*
12. *taārabt*, the Arabic (one); AM *itrان*, stars
13. *lmnšar*, saw; AM *imiγzn*
14. *lhatf amzian*, small *lhatf**; AM *itrان*, stars
15. *tafnzart**
16. *lhatf amzian*, small *lhatf**; AM *itrان*, stars
17. *taārabt*, the Arabic one; AM *itrان*? (informants unsure)
18. *lmnšar*, saw; AM *imiγzn**
19. *tafnzart**
20. *tifiyri*, female snake; AM *imiγz iqqnn*, closed *imiγz**
21. *lmnšar*, saw; AM *imiγz**

*Meaning unknown to informants, except as name of the design. *Tafnzart* (alternately *taznfart*) relates to Arabic *znfara*, "protruberant lip, astonishing nose." *Lhatf* relates to Arabic *hatif*, "angel which speaks; telephone;" it was considered dangerous and forbidden in some Zemmour groups (Delphy 1954: 38). *Imiγzn* is unknown to us as well as to our informants.

As the names of designs in Fig. 23 illustrate, some design names are descriptive (eg. "saw" for a jagged line), others have prophylactic significance, naming a dangerous object (eg. "tongue of serpent"),¹² while still other names have no significance for the user beyond designating a particular design.

Fig. 23 Zemmour saddle blanket which includes some of the traditional designs used on the decorative textiles.



While the design elements may differ somewhat between the Zemmour, Zayan, and Ait Mgild textiles, for an outsider the more obvious distinctions are those of color and composition. Dark red predominates in textiles of all three groups. It is mixed with a strong proportion of dark blue in Ait Mgild textiles, while those of Zemmour are accented mainly in black, yellow, and white. Zayan colors in areas we have noted are similar to the adjacent Zemmour or Ait Mgild groups.

In composition, Zemmour differs sharply from Ait Mgild and Zayan weaving by its use of skip plain weave in horizontal bands clearly separated by plain weave (compare the

three pillows in Fig. 7). Zemmour pieces have these bands from selvage to selvage or between borders, but vertical bands other than borders are rare. The arrangement and choice of motifs seem to be governed by no constraints of end-to-end symmetry, although the bands are often asymmetrically balanced.¹³ By contrast, the composition of plain and decorated areas in Ait Mgild and Zayan weaving appears to be less horizontally oriented than the Zemmour and to have more emphasis on over-all design. Some pieces have horizontal bands of skip plain weave separated by little or no plain weave; often oblique lines carry through several succeeding bands, giv-



Fig. 24 Old pile rug owned by El Madani Ben Ahmed of Khemisset with figurative designs including human figures, camels, trains, and teapots with tray and glasses.

ing the impression of interlocking designs as in the ends of the Zayan pillow in Fig. 7b. Other pieces are completely covered by all-over designs, usually large chevrons or lozenges. In still others, vertical bands connect the horizontal design bands, defining rectangular areas filled with plain weave in west-facing stripes, as in the *ahrbl* of Fig. 6.

All of the textiles considered so far have been highly geometric in design. While many knotted rugs made in urban centers, especially Rabat, reflect the Arab and Andalusian

tradition characterized by floral motifs, central medallions, and borders, most of the Berber knotted rugs are strictly geometric. While the technique of skip plain weave lends itself best to geometric design, rug knotting is not as restrictive. Evidence that some figurative design was attempted is shown by the rug in Fig. 24, owned by El Madani Ben Ahmed of Khemisset, which he believes to be eighty to a hundred years old. Motifs include human figures, camels, trains, and teapots with tray and glasses. A similar, larger rug is

described by Ricard (1926: 51-3) as "a mid-nineteenth century Marmoucha, the only one known with representation of people and animals." A new rug which we saw in a shop in Casablanca reflects this tradition in its use of stylized human figures.

CONCLUSIONS

The traditional Berber textiles of central Morocco are part of an earlier, pastoral, tribal way of life. Their survival seems to depend most on the retention of their significance—in prestige, esthetic value, and ceremonial function.

With its many ethnic groups stabilized under a strong central government, Morocco is rapidly becoming a modern industrialized nation. Rural groups are less isolated and more Berber families now live in urban environments; both are exposed to many new influences. The younger generation, attending school longer and seeking employment outside the home, has little time to learn the traditional skills. Urban women who have more leisure time for weaving tend to produce more knotted rugs and fewer of the more technically complex textiles in skip plain weave. At present, traditions remain strong in rural areas, where a significant amount of weaving continues. One can hope that the Berber heritage will be preserved within the modernizing nation, and with it the traditional decorative weaving.

NOTES

1. Speakers of Tamazight call themselves collectively *Imazighen*, as distinct from other Berber dialect groups to the north (speaking *Tarifit*) and the south (speaking *Tachelhit*). In Moroccan Arabic, Berber languages are called *Shilha*.

2. Transhumance, a regular seasonal movement of flocks between more or less fixed pastures, as distinct from freely-wandering nomadism.

3. Some older examples of decorative weaving are preserved in museums. See especially the Musée de la Direction de l'Artisanat in Rabat.

4. Beliefs associated with weaving noted by us correspond closely to those noted by Westermarck (1926) for other groups.

5. A key to pronunciation is given in Harries (1974: 3-10).

6. Similar long pieces, often with sequins, are hung in Ait Mgild houses behind the loose cushions of the narrow, backless couches that line the walls.

7. Interestingly, the Fulani of Mali also use cotton for the white spots in brocaded design areas of their wool blankets.

8. The Arabic word for silk, *ihrir*, is used in Tamazight for silk, rayon, mercerized cotton, and sometimes other cotton yarns.

9. For a description of the fixed-heddle ground loom see Chantréaux (1945: 21-22).

10. *Amɣnuj* appears to mean "shed" as well as "cross", and was also used by one weaver consulted to mean "plain weave." Another word for the shed, *rruh*, has the primary meaning of "soul, spirit."

11. For providing this information, we thank Professor Bouâzza Bagui; Lhaj Zaid, of Sidi Âddi; the Director of the Cooperative Artisanale, Khemisset; and the weavers whom they consulted.

12. Ellen Micaud (1970: 40) notes the Zemmour use of "sharp defensive names that can pierce the eye of envy."

13. This organization of traditional elements in the weaver's process of composition has been compared to the oral composition of traditional verses into songs (Harries 1973).

Photographs and drawings are by Sally Forelli except for Figures 8 and 9, by Jeanette Harries, and the map in Figure 1.

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